

### **REMARKS**

Favorable reconsideration and allowance of the present application are respectfully requested in view of the following remarks.

Claims 1, 2, 4, 5, 7, 9-23, and 25-30 are pending in this application, including independent claims 1 and 22. Independent claim 1, for instance, is directed to a method for reducing odor. The method comprises forming a coordination complex between a transition metal and a polydentate compound. The polydentate compound is a polyalkylimine. The method further comprises crosslinking the polydentate compound. The crosslinking renders the polydentate compound substantially water-insoluble. Lastly, the method comprises contacting the coordination complex with an odorous compound so that the one or more active sites of the transition metal capture the odorous compound.

In the Office Action, all pending claims were rejected under 35 U.S.C. § 103(a) as being unpatentable over EP 1214878 (Stoddart et al.) in view of U.S. Patent No. 6,410,616 (Harada et al.), U.S. Patent No. 6,001,342 (Forestier et al.) and U.S. Patent No. 4,959,135 (Zenner et al.), and with respect to claims 8-12 and 24, U.S. Patent No. 4,275,054 (Sebag et al.) and with respect to claims 13-16 and 26-28, U.S. Patent No. 5,120,693 (Connolly).

Limitations similar to those presented in previous dependent claims 8 and 24 have been incorporated into independent claims 1 and 22 respectively. As noted above, the Office Action cites Sebag et al. as disclosing the step of crosslinking the polydentate compound. Applicants respectfully disagree. Sebag et al. is directed to a deodorant. The compounds disclosed in Sebag et al. are salts of polyanionic

polyamides.

First, the Office Action points to Col. 2, lines 37-42<sup>1</sup> as disclosing Applicants' polyalkylimine required by both independent claims 1 and 22. Applicants respectfully disagree. As Sebag et al. notes:

The compounds of the invention **can easily be prepared** by a known type of condensation process, **by reacting an acid anhydride . . . with a cationic polymer** or oligomer . . . the cationic polymers or resins which can be used . . . (include) polyethyleneimines. Col. 2, lines 22-42 (emphasis added).<sup>2</sup>

Thus, the cursory mention of a polyalkylimine is simply as an intermediate compound to a final product (polyanionic polyamide).

Second, even if Sebag et al. disclosed a product that included a polyalkylimine, as claimed by Applicants, Applicants respectfully submit that Sebag et al. does not disclose crosslinking the polyalkylimine as the Office Action alleges. The Office Action points to Col. 3, lines 25-30 as disclosing crosslinking a polyalkylimine. On the contrary, Sebag et al. discloses that "crosslinking of the **polyamino-polyamide** is effected with a crosslinking agent." Col. 3, lines 26-27 (emphasis added). Sebag et al. does not disclose crosslinking a polyalkylimine. Furthermore, "the polyamino-polyamide . . . is prepared by the polycondensation of an acidic compound on a polyamine." Col. 3, lines 7-9. Additionally, Col. 3, lines 9-25 denotes what group the acidic compound is selected from and what group the polyamine is selected from. Sebag et al. does not disclose a polyalkylimine as a part of either of these groups.

Harada et al. is cited as allegedly disclosing that crosslinked polydentate

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<sup>1</sup> The Office Action states Col. 4, lines 37-42, but Applicants believe the Examiner intends to point to Col. 2, lines 37-42.

<sup>2</sup> The Office Action also points to Table I as disclosing a polyethyleneimine. See, also, Col. 8, lines 25-26 stating "Table I below indicates the **reactants** used in Examples 1 to 7." (emphasis added).

compounds are useful as deodorants. Specifically, the Office Action states, "Forestier et al. and Sebag et al. are relied upon for their teachings of the types of polyalkylimines and crosslinking and **Harada et al. teach that these types of compositions are useful as deodorants.**" Pg. 6, lines 11-13. Additionally, the Office Action notes, "The art also teaches cross-linked polyethyleneimines with transition metals (see Harada et al.) for use in deodorant compositions." Pg. 7, lines 14-15.

As a preliminary matter, Applicants submit that Harada et al. fails to even disclose that the compound is a "deodorizer" as alleged by the Office Action.

Specifically, Harada et al. states:

Incidentally, it is permissible **to give various functions to the above crosslinked polymer or absorbent article by further adding materials, such as deodorants,** antimicrobial agents, perfumes, various inorganic powders, foaming agents, pigments, dyes, hydrophilic short fibers, manure, oxidants, reductants, water, and salts, to the crosslinked polymer. Col. 10, lines 17-23 (emphasis added).

Thus, Harada et al. actually teaches away from utilizing the compound as an odor reducing compound since it is optional to give various functions to the crosslinked polymer by adding materials such as deodorants, perfumes, and manure.

Furthermore, the Office Action also points to Harada et al. as illustrating "crosslinked polyethyleneimines with transition metals." Among the laundry list of crosslinking agents disclosed (see Col. 4, line 29 – Col. 5, line 7), Harada et al. notes that a possible crosslinking agent is the hydroxide or chloride of zinc or iron. Col. 4, lines 66-67. Harada et al. does not disclose that the transition metal in this hydroxide or chloride compound forms a coordination complex, as described and claimed by Applicants. Furthermore, Applicants do not disclose or claim crosslinking the

polydentate compound by utilizing a transition metal. The transition metal claimed by Applicants is complexed to the polydentate compound. The polydentate compound may be crosslinked, for example, by any of the methods disclosed in Applicants' specification.<sup>3</sup>

Furthermore, independent claims 1 and 22, as amended, additionally include the limitation that the crosslinking renders the polydentate (polyalkylimine) substantially insoluble in water. This limitation further defines the claims over the art of record. As noted in the Office Action regarding ¶ [0016] of Stoddart et al., "the Examiner interprets this to mean that the chelating agent is **water-soluble**." Pg. 3, lines 11-12.

Thus, for at least the reasons set forth above, Applicants respectfully submit that the independent claims 1 and 22 patentably define over the references. Applicants also respectfully submit that, at least for the reasons indicated above, the dependent claims 2, 4, 5, 7, 9-21, 23, and 25-30 also patentably define over the reference(s) cited. The patentability of the dependent claims, however, certainly does not hinge on the patentability of the independent claims.

It is believed that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Examiner Arnold is invited and encouraged to telephone the undersigned, however, should any issues remain after consideration of this Amendment.

Please charge any additional fees required by this Amendment to Deposit Account No. 04-1403.

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<sup>3</sup> See, e.g., pg. 9, line 4 – pg. 11, line 20.

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Respectfully submitted,

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